



*Close-Off Pressures  
Normally Closed*

				ELECTRIC ZONE (GZ & GT)			ELECTRIC LINEAR (GS & GF)		LOW PRESSURE PNEUMATIC (20 PSI)			
GZ & GT Valves	GS & GF Valves	Size	Cv (Kvs)	ENZ2B2, ENZ2C2	ENZ3B2 & ESZ3B2 ENZ3C2 & ESZ3C2	ENZ1B2 & ESZ1B2	ESL3B2, ESL3C2 & ENL3C2	ESL1B2, ENL1C2 & ESL1C2 ESL2B2, ENL2C2 & ESL2C2	2" Actuator: PS2 (GZ & GT Valves)	4" Actuator: PS4	8" Actuator: PS8	12" Actuator: PS12
•	—	½"	0.4 (0.34)	70 (483)	95 (655)	95 (655)	—	—	120 (827)	—	—	—
•	—	½"	0.63 (0.54)	70 (483)	95 (655)	95 (655)	—	—	120 (827)	—	—	—
•	•	½"	1 (0.86)	70 (483)	95 (655)	95 (655)	250 (1724)	250 (1724)	120 (827)	236 (1627)	250 (1724)	—
•	•	½"	1.6 (1.37)	70 (483)	95 (655)	95 (655)	250 (1724)	250 (1724)	120 (827)	236 (1627)	250 (1724)	—
•	•	½"	2.5 (2.14)	40 (276)	50 (345)	50 (345)	250 (1724)	250 (1724)	65 (448)	236 (1627)	250 (1724)	—
•	•	½"	4 (3.43)	40 (276)	50 (345)	50 (345)	250 (1724)	250 (1724)	65 (448)	236 (1627)	250 (1724)	—
•	•	¾"	6.3 (5.40)	30 (207)	40 (276)	40 (276)	250 (1724)	250 (1724)	50 (345)	155 (1069)	250 (1724)	—
•	•	1"	10 (9)	30 (207)	40 (276)	40 (276)	203 (1400)	250 (1724)	50 (345)	91 (627)	250 (1724)	—
—	•	1- 1/4"	16 (14)	—	—	—	117 (807)	250 (1724)	—	52 (359)	148 (1020)	—
—	•	1- 1/2"	25 (21)	—	—	—	73 (503)	208 (1433)	—	32 (221)	92 (634)	—
—	•	2"	40 (34)	—	—	—	44 (303)	126 (869)	—	20 (138)	55 (379)	—
—	•	2- 1/2"	63 (54)	—	—	—	34 (234)	97 (668)	—	—	36 (248)	114 (785)
—	•	3"	100 (86)	—	—	—	22 (152)	63 (434)	—	—	23 (158)	74 (510)
—	•	4"	160 (137)	—	—	—	—	39 (268)	—	—	—	46 (317)
—	•	5"	250 (214)	—	—	—	—	25 (172)	—	—	—	29 (199)
—	•	6"	400 (343)	—	—	—	—	17 (117)	—	—	—	20 (138)

Notes:

- For 3-way valve close-offs, use both charts to determine upper port (NC) and bottom port (NO).
- Table expressed in psi (kPa).



*Close-Off Pressures  
Normally Open*

				ELECTRIC ZONE (GZ & GT)			ELECTRIC LINEAR (GS & GF)		LOW PRESSURE PNEUMATIC (20 PSI)			
GZ & GT Valves	GS & GF Valves	Size	Cv (Kvs)	ENZ2B2 & ENZ2C2	ENZ3B2 & ESZ3B2 ENZ3C2 & ESZ3C2	ENZ1B2 & ESZ1B2	ESL3B2, ESL3C2 & ENL3C2	ESL1B2, ENL1C2 & ESL1C2 ESL2B2, ENL2C2 & ESL2C2	2" Pneumatic: PS2 (GZ & GT Valves)	4" Pneumatic: PS4	8" Pneumatic: PS8	12" Pneumatic: PS12
•	-	½"	0.4 (0.34)	60 (414)	120 (828)	160 (1103)	-	-	85 (586)	-	-	-
•	-	½"	0.63 (0.54)	60 (414)	120 (828)	160 (1103)	-	-	85 (586)	-	-	-
•	•	½"	1 (0.86)	60 (414)	120 (828)	160 (1103)	250 (1724)	250 (1724)	85 (586)	142 (979)	250 (1724)	-
•	•	½"	1.6 (1.37)	60 (414)	120 (828)	160 (1103)	250 (1724)	250 (1724)	85 (586)	142 (979)	250 (1724)	-
•	•	½"	2.5 (2.14)	35 (242)	65 (448)	85 (586)	250 (1724)	250 (1724)	45 (310)	142 (979)	250 (1724)	-
•	•	½"	4 (3.43)	35 (242)	65 (448)	85 (586)	250 (1724)	250 (1724)	45 (310)	142 (979)	250 (1724)	-
•	•	¾"	6.3 (5.40)	30 (207)	55 (379)	70 (482)	250 (1724)	250 (1724)	35 (241)	80 (552)	231 (1593)	-
•	•	1"	10 (9)	30 (207)	55 (379)	70 (482)	201 (1386)	250 (1724)	35 (241)	52 (359)	150 (1034)	-
-	•	1- 1/4"	16 (14)	-	-	-	124 (855)	250 (1724)	-	32 (221)	93 (641)	-
-	•	1- 1/2"	25 (21)	-	-	-	80 (552)	250 (1724)	-	20 (138)	60 (414)	-
-	•	2"	40 (34)	-	-	-	49 (338)	201 (1386)	-	12 (83)	37 (255)	187 (1288)
-	•	2- 1/2"	63 (54)	-	-	-	38 (267)	153 (1054)	-	-	31 (213)	95 (655)
-	•	3"	100 (86)	-	-	-	25 (172)	101 (696)	-	-	20 (138)	63 (434)
-	•	4"	160 (137)	-	-	-	-	65 (448)	-	-	-	40 (275)
-	•	5"	250 (214)	-	-	-	-	42 (289)	-	-	-	26 (179)
-	•	6"	400 (343)	-	-	-	-	29 (200)	-	-	-	18 (124)

Notes:

- For 3-way valve close-offs, use both charts to determine upper port (NC) and bottom port (NO).
- Table expressed in psi (kPa).



### ENZ2B2 Electronic Valve Actuator 24 VAC Proportional Control

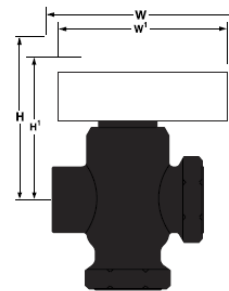
The ENZ2B2 Electronic Valve Actuator requires a 24 Vac supply and receives a 0 to 10 Vdc control signal to proportionally control a GZ Series Zone valve with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuator.



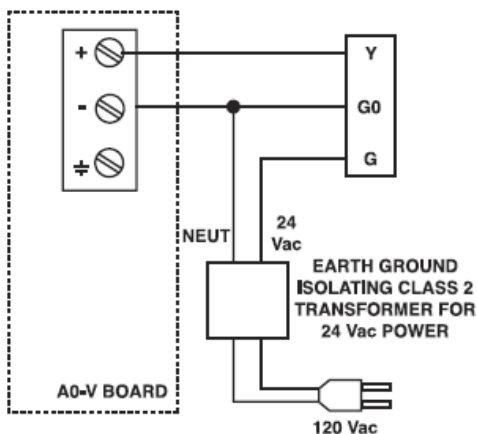
Specifications	
Operating voltage .....	24 Vac ± 20% or 24 Vcd ± 25%
Frequency .....	50/60 Hz
Power consumption .....	2.0 VA
Function	
Running time .....	75 sec.
Nominal stroke .....	7/32" (5.5 mm)
Nominal force.....	45 lb. (200 N)
Agency approvals .....	
UL873	
CSA C22.2 No. 24-93	
Ambient temperature	
Operation .....	34 to 122°F (1 to 50°C)
Transport and storage .....	-13 to +158°F (-25 to +70°C)
Medium temperature .....	
34 to 230°F (1 to 110°C)	
Mounting location .....	
NEMA 1 (interior only)	

Part No.	Description	Part No.
	0-10V	ENZ2B2

If inoperative, replace the unit.



#### Wiring diagram



Valve Line Size	Dimensions			
	Center Line to Top of Actuator	Service Height	Actual Width	Service Width
	H'	H	W'	W
1/2" (15mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
3/4" (20mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
1" (25mm)	5-3/8" (136mm)	13-3/8" (335mm)	3-1/4" (83mm)	11-1/4" (282mm)



### ENZ2C2 Electronic Valve Actuator 24 VAC 3-Position (Floating) Control

The ENZ2C2 Electronic Valve Actuator requires a 24 Vac supply floating control signal to provide three-position control. This actuator is designed to work with a GZ Series Zone valve with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuator.

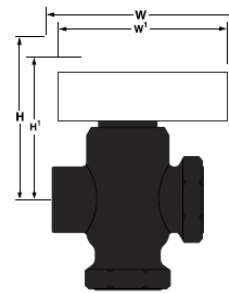
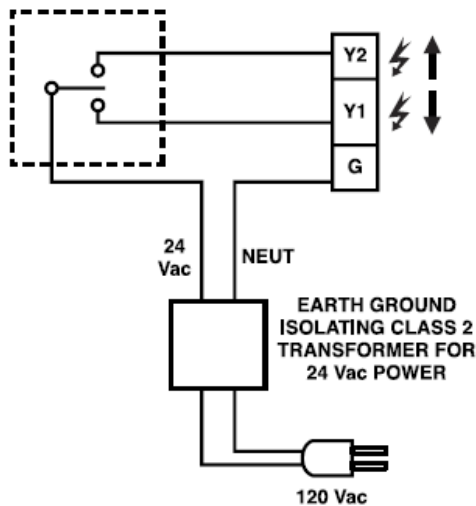


Specifications	
Operating voltage .....	24 Vac ± 20%
Frequency .....	50/60 Hz
Power consumption .....	0.8 VA
Function	
Running time .....	150 sec.
Nominal stroke .....	7/32" (5.5 mm)
Nominal force.....	.45 lb. (200 N)
Agency approvals .....	
	UL873 CSA C22.2 No. 24-93
Ambient temperature	
Operation .....	34 to 122°F (1 to 50°C)
Transport and storage .....	-13 to +158°F (-25 to +70°C)
Medium temperature .....	
	34 to 230°F (1 to 110°C)
Mounting location .....	
	NEMA 1 (interior only)

Part No.	Description	Part No.
	3-Position	ENZ2C2

If inoperative, replace the unit.

#### Wiring diagram



Valve Line Size	Dimensions			
	Center Line to Top of Actuator H'	Service Height H	Actual Width W'	Service Width W
1/2" (15mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
3/4" (20mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
1" (25mm)	5-3/8" (136mm)	13-3/8" (335mm)	3-1/4" (83mm)	11-1/4" (282mm)



**ENZ3B2 and ESZ3B2 Electronic Valve Actuator  
24 VAC Proportional Control**

The ENZ3B2 and ESZ3B2 Electronic Valve Actuators require a 24 Vac supply and receives a 0 to 10 Vdc control signal to proportionally control GT Series Terminal valves with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuators.



<b>Specifications</b>	
Operating voltage .....	24 Vac + 20%
Frequency .....	50/60 Hz + 2 Hz
Power supply .....	Earth Ground, isolating Class 2, 24 VAC Transformer
Power consumption .....	2 VA
<b>Control signal (Y)</b>	
Voltage .....	0 to 10 Vdc (default) or 0 to 20 mA with external 500 ohm, 0.2W resistor
Current .....	0.1 mA
<b>Running time</b>	
at 50/60 Hz .....	30 sec. + 10%
Fail safe (ESZ3B2 only) .....	~25 sec.
Nominal stroke .....	7/32" (5.5 mm)
Nominal force .....	67 lbs. (300 N), +20%, -0%
<b>Stroke/signal relationship</b>	
Fail safe (ESZ3B2 only) .....	Non-mechanical, electronic return fails to stem up (0 position)
Agency certification .....	UL873 Listed, Certified to Canadian Standard C22.2 No. 24-93
Ambient temperature operation .....	41 to 122°F (5 to 50°C) with 15 psi steam media
Transport and storage .....	-13 to 158°F (-25 to +70°C)
Ambient humidity .....	0 to 90% RH, non-condensing
Medium temperature .....	41 to 248°F (5 to 120°C)
Wiring connection ....	Plenum cable or 3/8-inch flex conduit
<b>Shipping weights</b>	
ENZ3B2 .....	1.1 lb. (0.5 kg)
ESZ3B2 .....	1.3 lb. (0.6 kg)

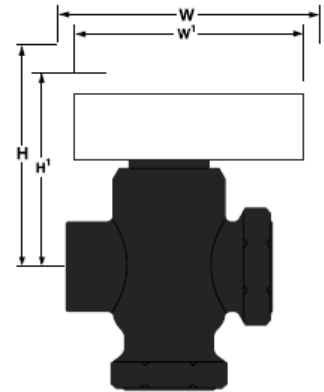
Part Nos.	Description	Part No.
	Fail-in-Place	ENZ3B2
	Fail-Safe	ESZ3B2

If inoperative, replace the unit.

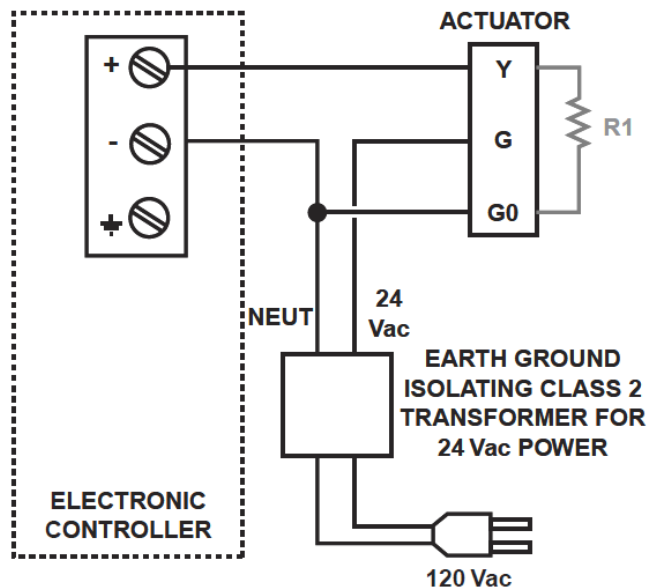


ENZ3B2 and ESZ3B2 Electronic Valve Actuator  
24 VAC Proportional Control continued

Dimensions						
Valve Line Size	Center Line to Top of Actuator		Service Height		Actual Width of Actuator	Service Width
	H <sup>1</sup>		H			
	NO	NC	NO	NC		
1/2 (15)	5-1/2 (140)		13-1/2 (343)		5-1/2 (140)	13-1/2 (343)
3/4 (20)	5-1/2 (140)		13-1/2 (343)		5-1/2 (140)	13-1/2 (343)
1 (25)	5-3/4 (146)		13-3/4 (349)		5-1/2 (140)	13-1/2 (343)
1-1/4 (32)	7-1/4 (184)	6-3/4 (171)	15-3/8 (390)	14-7/8 (377)	5-1/2 (140)	13-1/2 (343)
1-1/2 (38)	7-5/16 (186)	—	15-3/8 (390)	—	5-1/2 (140)	13-1/2 (343)



Wiring diagrams



G, G0: 24 Vac operating voltage  
 Y: \*0 to 10 Vdc control signal  
 G: System potential  
 G0: System neutral  
 R1: 500 ohm resistor  
 (optional for 0-20mA operation)

\*4 to 20 mA with optional resistor



**ENZ3C2 and ESZ3C2 Electronic Valve Actuator  
24 VAC 3-Position (floating) Control**



The ENZ3C2 and ESZ3C2 Electronic Valve Actuators require a 24 Vac supply and provide a 3-position (floating) control signal. These actuators control GT Series Terminal valves with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuators.

Part Nos.	Description	Part No.
	Fail-in-Place	ENZ3C2
	Fail Safe	ESZ3C2

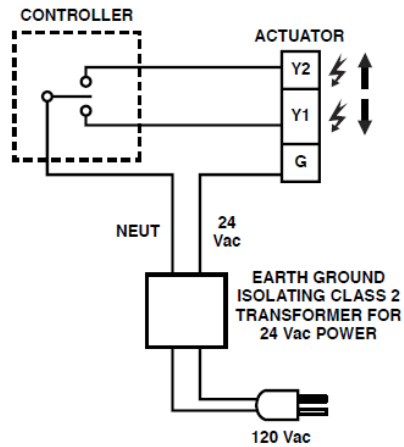
If inoperative, replace the unit.

Specifications	
Operating voltage .....	24 Vac + 20%
Frequency .....	50/60 Hz + 2 Hz
Power supply .....	Earth Ground, isolating Class 2, 24 Vac Transformer Note: Do not power more than 10 actuators with one transformer.
Power consumption	
ENZ3C2 .....	0.8 VA
ESZ3C2 .....	3 VA at ultra cap load, 2 VA at normal drift
Control signal	
Y2 .....	Retracts actuator shaft
Y1 .....	Extends actuator shaft
G .....	System potential
G0 (ESZ3C2 only) .....	System Neutral
Running time	
ENZ3C2.....	150 sec. +2% at 50 Hz 125 sec. +2% at 60 Hz
ESZ3C2.....	125 sec. +2% at 50/60 Hz
Fail safe (ESZ3C2 only) .....	~30 sec.
Nominal stroke .....	7/32-inch (5.5 mm)
Nominal force .....	67 lbs. (300N) +20%, -0%
Stroke/signal relationship .....	Linear
Fail safe (ESZ3C2 only) .....	Non-mechanical, electronic return fails to stem up (0 position)
Agency certification .....	UL873 Listed, Certified to Canadian Standard C22.2 No. 24-93
Ambient temperature	
Operation .....	41 to 122°F (5 to 50°C) with 15 psi steam media
Transport and storage .....	-13 to 158°F (-25 to +70°C)
Ambient humidity .....	0 to 90% RH, non-condensing
Medium temperature .....	41 to 248°F (5 to 120°C)
Wiring connection ....	Plenum cable or 3/8-inch flex conduit
Shipping weights	
ENZ3C2 .....	1.1 lb. (0.5 kg)
ESZ3C2 .....	1.3 lb. (0.6 kg)

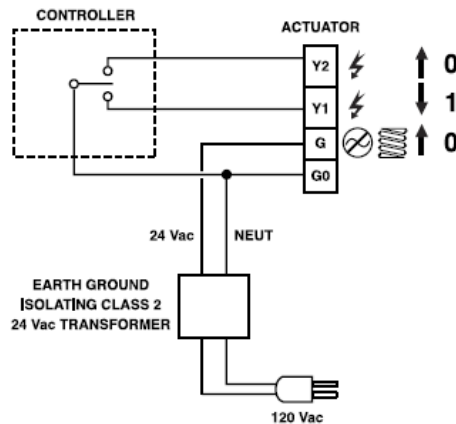


**ENZ3C2 and ESZ3C2 Electronic Valve Actuator  
24 VAC 3-position (floating) Control continued**

Wiring diagrams



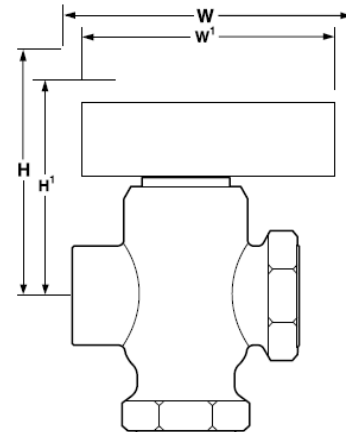
**Fail-in-Place  
ENZ3C2**



**Fail-Safe  
ESZ3C2**

Key	
Y2	Retracts actuator shaft
Y1	Extends actuator shaft
G	System Potential
G0	System Neutral

Valve Line Size	Dimensions							
	Center Line to Top of Actuator		Service Height		Actual Width of Actuator	Service Width		
	NO	NC	NO	NC	W'	W		
1/2" (15 mm)	5-1/8" (130 mm)		13-1/8" (333 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)	ENZ3C2	
3/4" (20 mm)	5-1/8" (130 mm)		13-1/8" (333 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)		
1" (25 mm)	5-3/8" (137 mm)		13-3/8" (340 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)		
1-1/4" (32 mm)	6-7/8" (175 mm)	6-3/8" (162 mm)	15" (380 mm)	14-1/2" (370 mm)	4-3/4" (121 mm)	12-3/4" (324 mm)		
1-1/2" (40 mm)	6-15/16" (176 mm)	—	15" (380 mm)	—	4-3/4" (121 mm)	12-3/4" (324 mm)		
1/2" (15 mm)	5-1/8" (130 mm)		13-1/8" (333 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)		ESZ3C2
3/4" (20 mm)	5-1/8" (130 mm)		13-1/8" (333 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)		
1" (25 mm)	5-3/8" (137 mm)		13-3/8" (333 mm)		4-3/4" (121 mm)	12-3/4" (324 mm)		
1-1/4" (32 mm)	6-7/8" (175 mm)	6-3/8" (162 mm)	15" (380 mm)	15" (380 mm)	4-3/4" (121 mm)	12-3/4" (324 mm)		
1-1/2" (40 mm)	6-15/16" (176 mm)	—	15" (380 mm)	—	4-3/4" (121 mm)	12-3/4" (324 mm)		





## GZ Series Zone Control Valves Two-way & Three-way Zones



### Description

The GZ Series ANSI Class 250 MZ Series valve bodies work with any ENZ2/ESZ2 Series electronic actuator with a 7/32-inch (5.5 mm) stroke. Typical applications include control of hot or chilled water or water-glycol solutions up to 50%. Compatible actuators deliver a minimum of 45 lb (200 N) of force.


### Features


- Direct-coupled universal bonnet
- Female NPT connections and brass trim
- ANSI Leakage Class IV (0.01% of Cv)


### Product Numbers

To order a complete valve plus actuator assembly, use the product numbers in the tables. The prefix specifies an actuator and the suffix specifies the valve body.

**Example: ENZ2B2 / GZ2B-2.5**

2-Way, Normally Closed Valve and Actuator Assemblies with Brass Trim and Female NPT Connections				
 Valve Body	Line Size, In. (mm)	Cv (Kvs)	Electro-mechanical, 24V	
			3 pos., fail-in-place	0-10V, fail-in-place
			Actuator Prefix Code	
GZ2B-.4	1/2 (15)	0.4 (0.34)	ENZ2C2	ENZ2B2
GZ2B-.63	1/2 (15)	0.63 (0.54)	ENZ2C2	ENZ2B2
GZ2B-1.0	1/2 (15)	1 (0.85)	ENZ2C2	ENZ2B2
GZ2B-1.6	1/2 (15)	1.6 (1.37)	ENZ2C2	ENZ2B2
GZ2B-2.5	1/2 (15)	2.5 (2.14)	ENZ2C2	ENZ2B2
GZ2B-4.0	1/2 (15)	4 (3.42)	ENZ2C2	ENZ2B2
GZ2B-6.3	3/4 (20)	6.3 (5.38)	ENZ2C2	ENZ2B2
GZ2B-10	1 (25)	10 (8.55)	ENZ2C2	ENZ2B2

2-Way, Normally Open Valve and Actuator Assemblies with Brass Trim and Female NPT Connections				
 Valve Body	Line Size, In. (mm)	Cv (Kvs)	Electro-mechanical, 24V	
			3 pos., fail-in-place	0-10V, fail-in-place
			Actuator Code	
GZ2A-.4	1/2 (15)	0.4 (0.34)	ENZ2C2	ENZ2B2
GZ2A-.63	1/2 (15)	0.63 (0.54)	ENZ2C2	ENZ2B2
GZ2A-1.0	1/2 (15)	1 (0.85)	ENZ2C2	ENZ2B2
GZ2A-1.6	1/2 (15)	1.6 (1.37)	ENZ2C2	ENZ2B2
GZ2A-2.5	1/2 (15)	2.5 (2.14)	ENZ2C2	ENZ2B2
GZ2A-4.0	1/2 (15)	4 (3.42)	ENZ2C2	ENZ2B2
GZ2A-6.3	3/4 (20)	6.3 (5.38)	ENZ2C2	ENZ2B2
GZ2A-10	1 (25)	10 (8.55)	ENZ2C2	ENZ2B2

3-Way, Mixing Valve and Actuator Assemblies with Brass Trim and Female NPT Connections				
 Valve Body	Line Size, In. (mm)	Cv (Kvs)	Electro-mechanical, 24V	
			3 pos., fail-in-place	0-10V, fail-in-place
			Actuator Prefix Code	
GZ3A-.4	1/2 (15)	0.4 (0.34)	ENZ2C2	ENZ2B2
GZ3-.63	1/2 (15)	0.63 (0.54)	ENZ2C2	ENZ2B2
GZ3-1.0	1/2 (15)	1 (0.85)	ENZ2C2	ENZ2B2
GZ3-1.6	1/2 (15)	1.6 (1.37)	ENZ2C2	ENZ2B2
GZ3-2.5	1/2 (15)	2.5 (2.14)	ENZ2C2	ENZ2B2
GZ3-4.0	1/2 (15)	4 (3.42)	ENZ2C2	ENZ2B2
GZ3-6.3	3/4 (20)	6.3 (5.38)	ENZ2C2	ENZ2B2
GZ3-10	1 (25)	10 (8.55)	ENZ2C2	ENZ2B2

**Technical Data**

<b>Line Size</b>	1/2 to 1 inch (15 to 25 mm)
<b>Body</b>	Globe style, UNS CA 844 bronze or forged brass C37700, ANSI Class 250
<b>Trim</b>	Brass
<b>Stem</b>	Stainless steel ASTM A582 Type 303, 7/32-inch (5.5-mm) stroke
<b>Seat</b>	Metal-to-metal
<b>Packing</b>	Ethylene propylene O-ring
<b>Mounting</b>	NEMA 1 (interior only)
<b>Flow characteristics:</b>	
<b>Two-way valves</b>	Modified equal percentage
<b>Three-way valves</b>	Linear

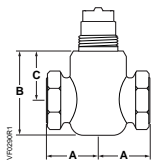
<b>Close-off Ratings</b>	According to ANSI/FCI 70-2 See Table 1.
<b>Controlled Medium:</b>	
<b>Two-way valves</b>	Water or water-glycol solutions to 50%
<b>Three-way valves</b>	Water or water-glycol solutions to 50%
<b>Medium Temperature</b>	35°F to 250°F (2°C to 120°C)
<b>Max. Differential Pressure for Modulating Service:</b>	
<b>Liquid (2w and 3w)</b>	25 psi (173 kPa)
<b>Rangeability</b>	Cv <1 = >50:1, Cv >1 = >100:1
<b>Leakage Rate</b>	Class IV (0.01% of Cv)

**Table 1. Close-Off Ratings.**

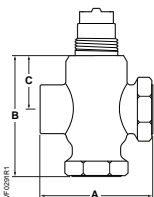
Action	Line Size Inches (mm)	Flow Rate, Cv (Kvs)	Close-Off Ratings psi (kPa)	Action	Line Size Inches (mm)	Flow Rate, Cv (Kvs)	Close-Off Ratings psi (kPa)
			Electronic Actuator ENZ2C2/ENZ2B2				Electronic Actuator ENZ2C2/ENZ2B2
NC	1/2 (15)	0.4 to 1.6 (0.34 to 1.37)	70 (483)	3-Way Mixing, upper	1/2 (15)	0.4 to 1.6 (0.34 to 1.37)	70 (483)
	1/2 (15)	2.5 to 4 (2.15 to 3.44)	40 (276)		1/2 (15)	2.5 to 4 (2.15 to 3.44)	40 (276)
	3/4 (20) and 1 (25)	6.3 to 10 (5.43 to 8.6)	30 (207)		3/4 (20) and 1 (25)	6.3 to 10 (5.43 to 8.6)	30 (207)
NO	1/2 (15)	0.4 to 1.6 (0.34 to 1.37)	60 (412)	3-Way Mixing, lower	1/2 (15)	0.4 to 1.6 (0.34 to 1.37)	25 (172)
	1/2 (15)	2.5 to 4 (2.15 to 3.44)	35 (241)		1/2 (15)	2.5 to 4 (2.15 to 3.44)	15 (103)
	3/4 (20) and 1 (25)	6.3 to 10 (5.43 to 8.6)	30 (207)		3/4 (20) and 1 (25)	6.3 to 10 (5.43 to 8.6)	10 (69)

**Table 2. Valve Dimensions.**

**2-Way Valve**



**3-Way Valve**



Size In. (mm)	A	B	C	Weight lbs. (kg)
1/2 (15)	1-3/8 (35)	2-1/4 (57)	1-5/16 (33)	.96 (.44)
3/4 (20)	1-5/8 (41)	2-3/8 (59)	1-5/16 (33)	1.13 (.51)
1 (25)	1-15/16 (49)	2-3/4 (69)	1-9/16 (39)	1.7 (.77)
1/2 (15)	2-3/4 (69)	2-1/4 (74)	1-5/16 (33)	1.10 (0.5)
3/4 (20)	3-1/4 (83)	3-9/16 (90)	1-5/16 (33)	1.44 (.65)
1 (25)	3-7/8 (98)	3-15/16 (99)	1-9/16 (39)	2.20 (1.0)

**Typical Specifications**

Automatic control valves shall have NPT threaded type fittings, 1/2-inch through 1-inch (15 mm through 25 mm) sizes, and shall be ANSI rated to withstand the pressures and temperatures encountered. Valves shall have metal-to-metal seats, stainless steel stems, and Ethylene propylene O-ring packing. Valves shall be ANSI Leakage Class IV (0.01% of Cv). Valves shall have a 50:1 rangeability (Cv <1) or better.

All two-way valves shall be provided with equal-percentage contoured throttling plugs. All three-way valves shall be provided with throttling plugs such that the total flow through the valve remains constant (linear) regardless of the valve position.

For complete technical details on two-way valves with union female, angle female, or union male end connections, see *GZ Series Zone Control Unit Two-way Valves Technical Instructions*.

Information in this publication is based on current specifications. The company reserves the right to make changes in specifications and models as design improvements are introduced.



**GT Series Terminal Unit 2-Way Valves**

**Description**

The ANSI Class 250 GT Series 2-way valve bodies work with any EN/ES1 and EN/ES3 Series electric or PS2 pneumatic actuators with a 7/32-inch (5.5-mm) stroke. They are suitable for normally open or normally closed control. Typical applications include control of hot or chilled water, water-glycol solutions up to 50% and steam up to 15 psi (steam only with stainless steel trim). Compatible actuators deliver a minimum of 67 lbs (300 N) of force. See Table 3 for Close-off ratings in PSI.

**Product Numbers**

To order a complete valve plus actuator assembly, use the product numbers in the tables. The prefix specifies an actuator. The suffix specifies the valve body.

**Examples: ENZ1B2 / GTB-2.5 or**

**PS2A / GTB-1.6**

**Features**

- Direct-coupled universal bonnet
- Female NPT end connections with either brass trim or stainless steel trim.
- ANSI Leakage Class IV (0.01% of Cv)




**Table 1. 2-Way Valve & Actuator Assemblies with Brass Trim and Female NPT Connections**

Valve Body	Valve Size, Inch	Cv (Kvs)	2-Inch Pneumatic Actuators, Spring Return (Fail-safe *)	Electro-mechanical, 24V							
				Floating, NSR	Floating, SR	0-10V, NSR	0-10V, SR	0-10V, NSR	0-10V, SR	Floating, SR	
				Actuator Prefix Code							
Normally Closed	GT2B-.4	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-.63	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-1	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-1.6	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-2.5	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-4	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-6.3	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-10	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
Normally Open	GT2A-.4	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-.63	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-1	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-1.6	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-2.5	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-4	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-6.3	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-10	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2

\* Control signal range: A = 3-8 psi, B = 8-13 psi, C = 10-15 psi.

April 13, 2009

**Table 2. 2-Way Valve & Actuator Assemblies with Brass Trim and Female NPT Connections**

Table 2. 2-Way Valve & Actuator Assemblies with Brass Trim and Female NPT Connections											
 Valve Body	Valve Size, Inch	Cv (Kvs)	2-Inch Pneumatic Actuators, Spring Return (Fail-safe *) 	Electro-mechanical, 24V							
				Floating, NSR	Floating, SR	0-10V, NSR	0-10V, SR	0-10V, NSR	0-10V, SR	Floating, SR	
											
Normally Closed	GT2B-.4(SS)	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-.63(SS)	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-1(SS)	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-1.6(SS)	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-2.5(SS)	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-4(SS)	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-6.3(SS)	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2B-10(SS)	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
Normally Open	GT2A-.4(SS)	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-.63(SS)	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-1(SS)	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-1.6(SS)	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-2.5(SS)	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-4(SS)	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-6.3(SS)	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
	GT2A-10(SS)	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2

\* Control signal range: A = 3-8 psi, B = 8-13 psi, C = 10-15 psi.

**Technical Data**

**Controlled Medium** Water, water-glycol solutions to 50%, low pressure steam <15 PSI (with stainless steel trim only).

**Media Temperature** 35°F to 250°F (2°C to 120°C)

**Maximum Differential Pressure for Modulating Service:**

Media	Brass Trim	Stainless Steel Trim
Liquid	25 psi (173 kPa)	50 psi (345 kPa)
Steam	—	15 psi ( 103 kPa)

**Rangeability** Cv <1 = >50:1, Cv >1 = >100:1

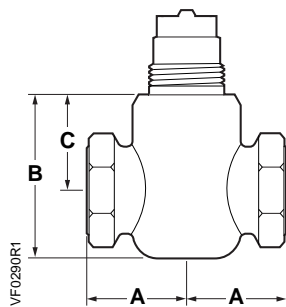
**Leakage Rate** Class IV (0.01% of Cv)

**Flow Characteristics** Modified equal percentage

**Mounting** NEMA 1 (interior only)

**Table 3. Close-Off Ratings in psi (kPa).**

Action	Valve Size Inch	Flow Rate, Cv (Kvs)	Electronic Actuator		Close-Off Ratings @ 20 psi (138 kPa)		
			EN/ES1	EN/ES3	2-Inch Pneumatic Actuator		
					PS2A 3-8 psi (69-103 kPa)	PS2B 8-13 psi (21-55 kPa)	PS2C 10-15 psi (55-90 kPa)
NC	1/2	0.4 to 1.6 (0.34 to 1.37)	95 (655)	95 (655)	40 (276)	95 (655)	95 (655)
	1/2	2.5 to 4 (2.15 to 3.44)	50 (345)	50 (345)	28 (193)	50 (345)	50 (345)
	3/4 and 1	6.3 to 10 (5.43 to 8.6)	40 (276)	40 (276)	18 (124)	40 (276)	40 (276)
NO	1/2	0.4 to 1.6 (0.34 to 1.37)	160 (1103)	120 (868)	95 (655)	45 (310)	20 (138)
	1/2	2.5 to 4 (2.15 to 3.44)	85 (586)	65 (448)	45 (310)	25 (172)	15 (103)
	3/4 and 1	6.3 to 10 (5.43 to 8.6)	70 (482)	55 (379)	35 (241)	10 (69)	—



Female NPT x Female NPT

Valve Size Inch	A	B		C		Weight lbs (kg)
		NO	NC	NO	NC	
1/2	1-3/8 (35)	2-1/4 (57)		1-5/16 (33)		.96 (.44)
3/4	1-5/8 (41)	2-3/8 (59)		1-5/16 (33)		1.13 (.51)
1	1-15/16 (49)	2-3/4 (69)		1-9/16 (39)		1.7 (.77)

**Figure 1. Two-way Valve Dimensions in Inches (mm).**

**Typical Specifications**

Automatic control valves shall have NPT threaded type fittings, 1/2 through 1-inch sizes, and shall be ANSI rated to withstand the pressures and temperatures encountered.

Valves shall have metal-to-metal seats, stainless steel stems, and Ethylene propylene O-ring packing.

Valves shall be ANSI Leakage Class IV (0.01% of Cv). Valves shall have >50:1 rangeability for Cv<1 rangeability and >100:1 for Cv>1.

All two-way valves shall be provided with equal-percentage contoured throttling plugs.

For complete technical details on valves with stainless steel trim, or union female, angle female, or union male end connections, see *GT Series Terminal Unit Two-way Valves* Technical Instructions.

Information in this publication is based on current specifications. The company reserves the right to make changes in specifications and models as design improvements are introduced.



**GT Series Terminal Unit 3-Way Valves**

**Description**

The GT ANSI Class 250 Series 3-way valve bodies work with any EN/ES1 and EN/ES3 Series electronic or PS2 pneumatic actuators with a 7/32-inch (5.5 mm) stroke. Typical applications include mixing of hot or chilled water and the control of glycol solutions up to 50%. Compatible actuators deliver a minimum of 67 lb (300 N) of force. See Table 3 for Close-off ratings in PSI.

**Product Numbers**


To order a complete valve plus actuator assembly, use the product numbers in the tables. The prefix specifies an actuator. The suffix specifies the valve body.

**Examples: ENZ1B2 / GT3A-2.5 or PS2A / GT3A-1.6**



**Features**

- Direct-coupled universal bonnet.
- Female NPT end connections with brass and stainless steel trim.
- ANSI Leakage Class IV (0.01% of Cv).

**Table 1. 3-Way, Mixing Valve & Actuator Assemblies with Brass Trim.**

 Valve Body	Valve Size, Inch	Cv (Kvs)	2-Inch Pneumatic Actuators, fail-safe	Electro-mechanical, 24V						
				Floating, NSR	Floating SR	0-10V, NSR	0-10V, SR	0-10V, NSR	0-10V, SR	Floating, SR
				Actuator Prefix Code						
GT3A-.4	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-.63	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-1.0	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-1.6	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-2.5	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-4.0	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-6.3	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-10	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2

1 All valves are positioned fail bottom to right normally open  
 \* Control signal range: A = 3-8 psi, B = 8-13 psi, C = 10-15 psi.

Table 2. 3-Way, Mixing Valve & Actuator Assemblies with Stainless Steel Trim.										
 Valve Body	Valve Size, Inch	Cv (Kvs)	2-Inch Pneumatic Actuators, Spring Return *	Electro-mechanical, 24 Vac						
				Floating, NSR	Floating, SR	0-10V, NSR	0-10V, SR	0-10V, NSR	0-10V, SR	Floating, SR
										
GT3A-.4(SS)	1/2	0.4 (0.34)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-.63(SS)	1/2	0.63 (0.54)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-1.0(SS)	1/2	1 (0.85)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-1.6(SS)	1/2	1.6 (1.37)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-2.5(SS)	1/2	2.5 (2.14)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-4.0(SS)	1/2	4 (3.42)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-6.3(SS)	3/4	6.3 (5.38)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2
GT3A-10(SS)	1	10 (8.55)	PS2*	ENZ3C2	ESZ3C2	ENZ3B2	ESZ3B2	ENZ1B2	ESZ1B2	ESZ1C2

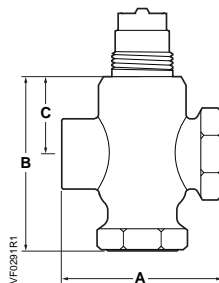
1 All valves are positioned fail bottom to right normally open  
\* Control signal range: A = 3-8 psi, B = 8-13 psi, C = 10-15 psi.

### Technical Data

<b>Valve Size</b>	1/2-inch to 1-inch	<b>Controlled Medium</b>	Water, glycol solutions to 50%						
<b>Body</b>	Globe style, UNS CA 844 bronze or forged brass C37700, ANSI Class 250	<b>Medium Temperature</b>	35°F to 250°F (2°C to 120°C)						
<b>Trim</b>	Brass or Stainless Steel	<b>Maximum Differential Pressure for Modulating Service:</b>							
<b>Stem</b>	Stainless steel ASTM A582 Type 303, 7/32-inch (5.5-mm) stroke	<table border="1"> <thead> <tr> <th>Media</th> <th>Brass</th> <th>Stainless Steel</th> </tr> </thead> <tbody> <tr> <td>Liquid</td> <td>25 psi (173 kPa)</td> <td>50 psi (345 kPa)</td> </tr> </tbody> </table>		Media	Brass	Stainless Steel	Liquid	25 psi (173 kPa)	50 psi (345 kPa)
Media	Brass	Stainless Steel							
Liquid	25 psi (173 kPa)	50 psi (345 kPa)							
<b>Seat</b>	Metal-to-metal	<b>Rangeability</b>	Cv <1 = >50:1, Cv >1 = >100:1						
<b>Packing</b>	Ethylene propylene O-ring	<b>Leakage Rate</b>	Class IV (0.01% of Cv)						
<b>Spring Range</b>	8 to 13 psi (55 to 90 kPa)	<b>Flow Characteristics</b>	Linear						
<b>Close-off Ratings</b>	According to ANSI/FCI 70-2 See Table 3.	<b>Mounting</b>	NEMA 1 (interior only)						

**Table 3. Close-Off Ratings in psi (kPa).**

Action	Valve Size Inch	Flow Rate, Cv (Kvs)	Electronic Actuator		Close-Off Ratings @ 20 psi (138 kPa)		
			EN/ES1	EN/ES3	2-Inch Pneumatic Actuator		
					PS2A 3-8 psi (69-103 kPa)	PS2B 8-13 psi (21-55 kPa)	PS2C 10-15 psi (55-90 kPa)
3-way, upper	1/2	0.4 to 1.6 (0.34 to 1.37)	95 (655)	95 (655)	40 (276)	95 (655)	120 (828)
	1/2	2.5 to 4 (2.15 to 3.44)	50 (345)	50 (345)	28 (193)	50 (345)	65 (448)
	3/4 and 1	6.3 to 10 (5.43 to 8.6)	40 (276)	40 (276)	18 (124)	40 (276)	50 (345)
3-way, lower	1/2	0.4 to 1.6 (0.34 to 1.37)	160 (1103)	95 (655)	95 (655)	45 (310)	20 (138)
	1/2	2.5 to 4 (2.15 to 3.44)	85 (586)	55 (379)	45 (310)	25 (172)	15 (103)
	3/4 and 1	6.3 to 10 (5.43 to 8.6)	70 (482)	40 (276)	35 (241)	10 (69)	—



**Figure 1. 3-way Valve Dimensions in Inches (mm).**

Valve Size Inch	A	B	C	Weight lbs (kg)
1/2	2-3/4 (70)	2-15/16 (74)	1-5/16 (33)	1.10 (0.5)
3/4	3-1/4 (83)	3-9/16 (90)	1-5/16 (33)	1.44 (.65)
1	3-7/8 (98)	3-15/16 (99)	1-9/16 (39)	2.20 (1.0)

**Typical Specifications**

Automatic control valves shall have NPT threaded type fittings, 1/2-inch through 1-inch sizes, and shall be ANSI rated to withstand the pressures and temperatures encountered.

Valves shall have metal-to-metal seats, stainless steel stems, and Ethylene propylene O-ring packing.

Valve shall be ANSI Leakage Class IV (0.01% of Cv).

Valves shall have >50:1 rangeability for Cv <1 and >100:1 rangeability for Cv >1.

All three-way valves shall be provided with throttling plugs such that the total flow through the valve remains constant (linear) regardless of the valve position.

For complete technical details on valves with stainless steel trim, see *GT Series Terminal Unit Three-way Valves Technical Instructions*.

Information in this publication is based on current specifications. The company reserves the right to make changes in specifications and models as design improvements are introduced.



**Dodge Engineering  
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and  
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## Zone Control and Terminal Unit Valves Type A

Close-Off Pressures	
– Normally Closed .....	Z-1
– Normally Open .....	Z-2
ENZ2B2 Valve Actuator .....	Z-3
ENZ2C2 Valve Actuator .....	Z-4
ENZ3B2 and ESZ3B2 Electronic Valve Actuator .....	Z-5
ENZ3C2 and ESZ3C2 Electronic Valve Actuator .....	Z-7
GZ Series Zone Control Valves .....	Z-9
GT Series Terminal Unit 2-Way Valves .....	Z-11
GT Series Terminal Unit 3-Way Valves .....	Z-14
Pricing .....	PR-7 & 8